

ECS Configuration Change Request

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|--|---------------------------------|---|---|---|--|---------------------------|
| 1. Originator Cherry Kenney | 2. Log Date: 02/04/03 | 3. CCR #: 03-0073 | 4. Rev: - | 5. Tel: 301-883-4177 | 6. Rm #: 3204D | 7. Dept. DEV/CO |
| 8. CCR Title: Patch_6A.07_DPL.02A | | | | | | |
| 9. Originator Signature/Date Cherry A. Kenney /s/ 2/4/03 | | | 10. Class II | 11. Type: CCR | 12. Need Date: 04Feb03 | |
| 13. Office Manager Signature/Date Louis Swentek /s/ 2/4/03 | | | 14. Category of Change: Initial ECS Baseline Doc. | | 15. Priority: (If "Emergency" fill in Block 27). Emergency | |
| 16. Documentation/Drawings Impacted (Review and submit checklist): | | | 17. Schedule Impact: | | 18. CI(s) Affected: DPL | |
| 19. Release Affected by this Change: 6A | | 20. Date due to Customer: 04Feb03 | | 21. Estimated Cost: None - Under 100K | | |
| 22. Source Reference: <input checked="" type="checkbox"/> NCR (attach) <input type="checkbox"/> Action Item <input type="checkbox"/> Tech Ref. <input type="checkbox"/> GSFC <input type="checkbox"/> Other: 36028, 36395, 36615, 36617, 36555, 36606, 36671 | | | | | | |
| 23. Problem: (use additional Sheets if necessary) This patch delivers checksum capability, Sev 5 NCR36028, to allow Data Pool insert verification of the integrity of science files after they have been copied from ECS to the SAN. This patch also deliveries a fix for the DataPool Rollup scripts, Sev 2 NCR36395. The old scripts did not work for year 2002. Additional DPL NCRs that have been merged to the baseline are being delivered and are listed on page 2. | | | | | | |
| 24. Proposed Solution: (use additional sheets if necessary) Deliver Patch_6A.07_DPL.02 to all DAACs. Patch must be installed on top on Patch_6A.07_System.01. | | | | | | |
| 25. Alternate Solution: (use additional sheets if necessary) Delay testing; wait until next full system delivery of DPL. | | | | | | |
| 26. Consequences if Change(s) are not approved: (use additional sheets if necessary) Possible file corruption on Datapool inserts. If changes are not approved, promotion of 6A07 to OPS mode could be delayed. | | | | | | |
| 27. Justification for Emergency (If Block 15 is "Emergency"): DAAC requested CHECKSUM capability. | | | | | | |
| 28. Site(s) Affected: <input type="checkbox"/> EDF <input checked="" type="checkbox"/> PVC <input checked="" type="checkbox"/> VATC <input checked="" type="checkbox"/> EDC <input checked="" type="checkbox"/> GSFC <input checked="" type="checkbox"/> LaRC <input checked="" type="checkbox"/> NSIDC <input type="checkbox"/> SMC <input type="checkbox"/> AK <input type="checkbox"/> JPL <input type="checkbox"/> EOC <input type="checkbox"/> IDG Test Cell <input type="checkbox"/> Other | | | | | | |
| 29. Board Comments: | | | 30. Work Assigned To: | | 31. CCR Closed Date: | |
| 32. EDF/SCDV CCB Chair (Sign/Date): Mary S. Armstrong /s/ 2/4/03 | | | Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS | | | |
| 33. M&O CCB Chair (Sign/Date): Debra Stepp /s/ 2/4/03 | | | Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS | | | |
| 34. ECS CCB Chair (Sign/Date): | | | Disposition: Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS | | | |

ADDITIONAL SHEET

CCR #: 03-0073 **Rev:** - **Originator:** Cherry Kenney

Telephone: 301-883-4177 **Office:** 3204D

Title of Change: Patch_6A.07_DPL.02A

_Actions

ClearCase Group(CSG):

Please make these tar files from the 6A07EBF1 baseline.

Please make a SOL8 tar file with the following packages:

EcDI.pkg
EcDICommon.pkg
EcDIWebAccess.pkg
EcDIWebRollup.pkg

Please make an IRIX65 tar file with the following packages:

EcDICommon.pkg
EcDIAMassAccess.pkg
EcDIDatabase.pkg

Please name this tar file Patch_6A.07_DPL.02A

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Sv=3, Bug id = ECSed36615, Desc: WebAccess: cannot continue drilldown for granules crossing 1/2 hours
Sv=3, Bug id = ECSed36617, Desc: InsertUtility does not persist the NON CACHE process flag to the db
Sv=2, Bug id = ECSed36555, Desc: ECS browse processing fails when browse arrives alone (after granule)
Sv=3, Bugid=ECSed36671, Desc The wrong cfg parameter is in the .cfgpatch for Patch_6A.07_DPL.02
Sv=3, Bug id = ECSed36606, Desc: Batch Insert logs incorrect number of inserts

DAAC Install Instruction

A. PREINSTALLATION:

1. Copy the *irix65* tar files into the <staging_area>/IRIX65 directory
2. Copy the *sun5.8* tar files into the <staging_area>/SOL8/ directory
3. Using the Setup.ksh files untar the tar files in both directories
- 4.. Stop tomcat on xxinsnn machine

B. INSTALLATION:

Using EcsAssist install the following packages:

EcDI.pkg
EcDICommon.pkg
EcDIWebAccess.pkg
EcDIWebRollup.pkg
EcDICommon.pkg
EcDIAMassAccess.pkg

EcDIDatabase.pkg

C. CONFIGURATION:

Important Information for Checksum Installation

The 6A07 DPL checksum implementation is slightly different from the 6A06 version.

In 6A07 the user has the ability to configure the percentage of CHECKSUMED files ON THE ARCHIVE hosts - in addition to the DATAPOOL host. This gives us the ability to turn off checksumming in the event of increasing CPU utilization on the archive machines. ALL files that are checksummed on the ARCHIVE HOSTS as part of the DATAPOOL insert process will have their checksum stored in the DPL database (DIFile table, checksum column). The archive host calculated file checksum will be stored regardless if it is being computed on the DATAPOOL hosts. This allows us to subsequently verify the integrity of the data pool SAN data by having the remote checksum available for comparison - in any scripts that we choose to write for data consistency verification.

IMPORTANT: the NON ECS files, metadata files and BROWSE files will not be checksummed.

In order to use the provided functionality the following changes will occur:

On the DATAPOOL dps machine the following file will be modified during the installation:

/usr/ecs/MODE/CUSTOM/cfg/EcDIInsertUtility.properties

The following lines will be appended at the very end of the file:

```
CHECKSUM_PERCENTAGE = 100
CORRUPTED_FILES_SUBDIR = corrupted_files
```

On the ARCHIVE HOSTS (wherever the EcDIQuickServer runs), the file will be modified during the installation:

/usr/ecs/MODE/CUSTOM/cfg/EcDIQuickServer.CFG

The following lines will be appended to the very end of the file:

```
CHECKSUM_PERCENTAGE = 100
```

NOTE: 100 and corrupted_files are the DEFAULT VALUES that are being set as part of the install process. They can be modified if desired. The CHECKSUM_PERCENTAGE configurable parameter specifies what percentage of the copies into DPL will be checksummed on the dps or archive machine (depending on the location of the configuration file where the parameter appears)

If the checksum is computed on BOTH the archive and the DPL host - the values will be compared. If they are identical - the DPL copy worked. Otherwise, the copy will be retried COPY_RETRIES (defaults to 3 in the EcDIInsertUtility.properties file) times - and if the failure still occurs - the corrupted file will be moved into the CORRUPTED_FILES_SUBDIR of the DPL_ROOT directory. The DPL ingest will FAIL. The CORRUPTED_FILES_SUBDIR represents the area under the DPL_ROOT (Data Pool Root directory, usually /datapool/MODE/user) where the corrupted files will be stored. Counting the files in this subdirectory will show us for how many times file corruption occurred but it will not tell us if the corruption was fixed via retries. If the specified directory does not already exist under the DPL_ROOT area - it will be automatically created by the CUSTOM code.

Notes:

In order to see the CHECKSUM LOGGING MESSAGES in the EcDIInsertUtility.log the DEBUG_MESSAGES flag in the EcDIInsertUtility.properties needs to be set to Y (DEBUG_MESSAGES=Y).

1. the CHECKSUM_PERCENTAGE mechanism relies on a random number between 0 and 100 that is generated each time a DPL insert process is running. If the random number is below the configured value - no checksumming will be performed on the DPS machine. Same mechanism is used on the ARCHIVE HOST.

2. in order to identify DPL corruption from the CUSTOM code the following messages can be used:

"CORRUPTED FILE COPY RETRIES EXHAUSTED" in EcDIInsertUtility.log

will find instances where corruption could not be eliminated after retrying the configured number of times

"CHECKSUMS don't match" in EcDIInsertUtility.log

will identify situations where the CHECKSUMS don't match (corruption occurred and the copy was retried).

"CHECKSUMS match" in EcDIInsertUtility.log

will identify situations where the CHECKSUMS match (no corruption occurred, no retries were needed).
"DPL CHECKSUM COMPUTATION NOT NEEDED" in EcDIInsertUtility.log
will identify situations where the CHECKSUM was not computed on the DPL host (due to the CHECKSUM_PERCENTAGE value).
"CHECKSUM NOT COMPUTED ON REMOTE ARCHIVE HOST" in EcDIInsertUtility.log
will identify situations where the CHECKSUM was not computed on the ARCHIVE host (due to the CHECKSUM_PERCENTAGE value).

3. When a CHECKSUM is computed on the archive host, its value will be transmitted to the DPL INSERT PROCESS, who will store it in the DPL DATABASE. The DPL DIFile record will thus contain the checksum of the source file, allowing us to perform extra custom checks for situations when the CHECKSUM hasn't been computed on the archive host because of the CHECKSUM_PERCENTAGE value being set to a value < 100).

D. DATABASE PATCH

1. There is one new database patch. Your database should already be at 6121 . You must bring up EcsAssist on the host where the DPL database package is installed (xxacgnn) and apply the 6123 database patch. This patch adds checksum column to DIFile and updates related procs

E POSTINSTALLATION

Restart tomcat.